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Diptera: Lauxaniidae (Part 2)[1]

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Abstract— The Micronesian fauna of Lauxaniidae, continuing from the first paper in 2009, is supplemented by three species: two new species, *Kerteszomyia guamensis,* **n. sp.** and *Meiosimyza carolinensis*, **n. sp.** are described, and one Oriental species, *Trypetisoma octopunctatum* Malloch, is reported for the first time.

Introduction

The Micronesian fauna of the Lauxaniidae (Diptera) was recorded for the first time by Sasakawa (2009), in which 18 species of the genus *Homoneura* Wulp (1891) were treated. In this second paper, three species reported for the first time from Micronesia: two new species (one each) in the genera *Kerteszomyia* Malloch (1929a) and *Meiosimyza* Hendel (1925) are described; and the occurrence of one species of *Trypetisoma* Malloch (1924) is also recorded. All species occur in Mariana and Caroline Islands.

Materials and Methods

Twenty pinned specimens examined during this study were collected by the following: G.F. Bohart (GB), J.L. Gressitt (JG), K.L. Maehler (KM) and O.H. Swezey (OS), of the Bishop Museum, Honolulu (BPBM), and P.A. Adams (PA), J.F.G. Clarke (JC) and N.L.H. Krauss (NK), M. Wasserman (MW) and M.R. Wheeler (MWh) of the National Museum of Natural History, Washington, D.C. (USNM).

The holotypes and some paratypes are deposited in the National Museum of Natural History, Washington, D.C. (USNM). Other paratypes are deposited in the Bishop Museum, Honolulu (BPBM).

Systematics

1. *Kerteszomyia guamensis* Sasakawa, n. sp.

Type material. Holotype male (USNM), Mt. Lamlam, Guam, Mariana Is., X 1957, NK. Paratypes: 2♀, same data as holotype (USNM); 1♀, Pilgo River, 26 V 1945, GB & JG (BPBM); 1♂, Mt. Balanas, VIII 1952, NK (USNM); 1♀, Pt. Ritidian, X 1952, NK (USNM); 2♀, Yigo, X 1957 & II 1958, NK (USNM).

Diagnosis. Small, yellow species, with wing 2.4 (♀)–2. 7 (♂, holotype) mm long; mesoscutum yellow, with two pale brown vittae just inside of dc-rows (indistinct in male), 1+2 dc and two rows of acr; sternopleuron with two stpl; costal spinules extending to basal 1/3 between apices of R_{2+3} and R_{4+5}, ultimate section of CuA_1 about 1/5 length of penultimate; fore femur

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without ctenidium of setae, tibiae each with posterodorsal seta (pd) apically; hypandrium V-shaped, distiphallus tubular (fig. 1).

Description. Male. Head yellow; ocellar triangle dark brown; base of outer vertical bristle (vto) to occiput obliquely through dorsal postorbit pale brown; triangular angle between parafrontalia and parafacialia laterad of antennal base brown; antenna brown but inside of scape and pedicel yellow and ventral margin of first flagellomere yellowish, arista brown; palpus yellow. Thorax yellow; mesoscutum sparsely greyish-dusted, with central vittae indistinct (holotype) or distinct and extending to scutellum as anterior spot (paratype), and also lateral side below level of presutural (prs), supra-alar (sa) and post-alar (pa) bristle line pale brown, extending posteriorly to lateral sides of scutellum, both scutellar bristles (sc) growing on yellow area; pleura entirely yellow (holotype) or notopleuron ventrally and dorsal margins of meso- and sternopleura narrowly pale brown (paratypes). Wing hyaline, very faintly yellowish tinged; veins brownish yellow but yellow at base; calypter yellow, with fringe yellowish brown; halter yellow; legs yellow. Abdomen weakly shining, yellow, each tergite sometimes brown-tinged anteriorly.

Frons about 1.4 times as wide as eye, parallel-sided or slightly converging ventrally, sparsely setulose ventrally; fronto-orbital setae (or) two, upper one slightly longer than lower and shorter than inner vertical bristle (vti), orbital setulae (os) only two; postocellar bristle (poc) below vertex longer than oc which is about 1/2 length of vti; eye with white minute hairs very sparsely; gena about 1/3 eye height, with four (rarely three) long pm; first antennal flagellomere suborbicular, rounded apically, as long as wide, with pile whitish; arista almost as long as width of eye, minutely pubescent. Mesoscutum with acr in inner row distinct but only several ones in outer row and prsc about half length of posteriormost dc; scutellum with basal sc inclinate, apical sc divergent; mesopleuron with a long bristle (mspl), sternopleuron with two bristles (stpl); fore femur with four posteroventral setae, hind femur with one anterodorsal seta preapically; mid tibia with a long spur. Wing length 2.7 mm; costa with three sections in ratio of 3.6 (3.4–4.3) : 1.0 (–2.0) : 0. 7(–0.6), r-m slightly at proximal position of discal cell, M1 ratio 1.6: 1. Genitalia (Fig. 1): epandrium with long setae sparsely, surstylus with long setae posteriorly and many short setae along inner ventral margin; cercus almost as high as surstylus; phallus almost as long as hypandrium, distiphallus about 1.5 times length of basiphallus. Body length 2.5–2.7 mm.

Female. Similar to male, but wing shorter, 2.4–2.6 mm; costal ratio as 3.4–4.3 : 1.0 : 0.7, r-m usually at midpoint of discal cell, M_1 ratio 2.1–2.3; body length 2.5–2.7 mm.

Distribution. S. Mariana (Guam).

Remarks. This new species is immediately distinguishable by the pale brown bivittate mesoscutum, and much smaller in size than the immaculate *K. maculifrons* Malloch (1929a), the type species of the genus known from Luzon, Philippines. Two stpl in this species are also seen in a species (not described yet) from Madagascar (Stuckenberg, 1971), but only one in *K. maculifrons*.

2. *Meiosimyza carolinensis* Sasakawa, n. sp.

Type material. Holotype male (USNM), Kusaie, Hill 1010, Caroline Is., 13 IV 1953, JC, light trap. Paratypes: 1♂, same data as holotype (USNM); 1♀, Mt. Unibot, Tol I., Truk, 30 XII 1952, JG (BPBM), light trap; 2♀, Agric. Exp. Sta., Colonia, Ponape, 6 & 11 I 1953, JG (BPBM); 1♀, Mt. Tamatamansakir, Ponape, 18 I 1953, JG (BPBM).

Diagnosis. Small, yellowish species, with wing 1.7 (holotype)–2.0 (♂) mm long; head yellow, frontalia with pale brown stripe centrally; thorax largely yellow, mesoscutum pale brown in male but yellow and with six brown vittae in female, with 1 +3 dc, scutellum yellow, brownish anteriorly; costal spinules distinct apically to middle between apices of R_{2+3} and R_{4+5}; fore femur without ctenidium of setae, tibiae each with pd; abdomen shining black in male but in female

yellow and tergites each with three or four brown spots; phallus nearly thrice as long as phallapodeme (Fig. 2).

Description. Male. Frons 1.5 times as wide as eye, slightly converging ventrally; parafrontalia with two or (lower one distinctly shorter than upper) os three or four below level of upper or; oc almost as long as lower or, poc twice as long as oc; post-vertical bristles(pvt) cruciate, situated at short distance below vertex; occiput slightly concave dorsally, fit to thorax; eye oblique, slightly higher than wide, with whitish hairs sparsely; face small, flat; gena 1/7 eye height; pm four, shortening anteriorly; antenna with scape and pedicel yellow, first flagellomere pale brown, subquadrate, slightly narrowing and rounded apically, whitish pilose; arista dark brown, as long as eye height, pubescent shortly; palpus black. Mesoscutum densely whitish grey dusted, with four de becoming longer posteriorly, posteriormost de longest; acr in two rows, 1–2 pairs behind transverse suture and posteriormost pair sometimes longer than others; prsc slightly longer than acr; 11 ia-setulae in two irregular rows; humerus and notopleuron pale brown; mesopleuron with pale brown median stripe transversely, extending anteriorly to propleuron, 6–8 minute setulae in two irregular rows before mspl and a row of 3–5 setulae at middle between level of mspl and ventral margin of pleuron; sternopleuron brown along dorsal margin, with two stpl. Wing hyaline, faintly yellow-tinged anteriorly, with veins brownish yellow; three costal sections in ratio of 4.0: 1.0: 0.8, r-m at proximal position of discal cell, M1 ratio nearly 2.0, ultimate section of CuA_1 about 1/3 length of penultimate; calypter yellow, with fringe whitish; halter yellow. Legs yellow; fore femur with 3–4 long pv setae, hind femur with a long av seta just beyond middle and preapical ad seta shorter than av one; mid tibia with one spur; hind tarsomeres each broadened than others. Genitalia (Fig. 2): epandrium brown; basiphallus narrow, mesophallic sclerites long, distiphallus U–shaped, weakly chitinized, covered by membranous lobe dorsally, with short tongue-like sclerite ventrally. Body length 1.8 (holotype)–2.1 mm.

Female. Similar to male, but central stripe in frontalia paler and antenna darker than that of male, mesoscutum very sparsely greyish-dusted yellow, with six pale brown vittae, of which median pair between dc- and acr-rows, lateral ones ventrad of prs and pa lines and dorsad of humeri, and sublateral one narrow and shortly on ia-setula rows; humerus and notopleuron yellow; abdomen yellow, T1 with three brown spots (central one sometimes lacking), T2–5 each with four dark brown, quadrate spots before row of marginal setae but those on T5 smaller and paler; wing length 1.7–1.9 mm; body length 2.0–2.1 mm.

Distribution. Caroline Is.: Truk, Ponape, Kusaie.

Remarks. This is the first record in the Australian-Oceanian Region for the distribution of this Holarctic genus, and this new species is an interesting exhibition of color dimorphism sexually and the phallapodeme is distinctly shorter than phallus [extremely longer in *M. rorida* (Fallén, 1820)].

3. *Trypetisoma (Trypaneoides) octopunctatum* Malloch

Trypaneoides octopunctatum Malloch, 1929c: 441.
Trypetisoma (*Trypaneoides*) *octopunctatum* Malloch: Evenhuis & Okadome, 1989: 588.

This Indonesian species is easily identified by the original wing pattern; wing length 2.0–2.4 mm and presence of only one discal bristle on mesopleuron. Genitalia: epandrium narrow, with long setae sparsely on posterior half; surstylus about 1/3 as high as epandrium, with short and long setae posteriorly; phallus long tubular, well chitinized, almost 2.5 times as long as epandrial width, with a minute apicoventral projection, largely covered by membrane excepting apical part; hypandrium consisted of rectangular narrow sclerites.

Material examined. S. Mariana: 1♀, Mt. Chaochao, Guam, 16 V 1936, OS; 1♂1♀, Mt. Lamlam, 27 XI 1952, JG; 3♂, Haputo Pt., Guam, 14 III 1948, KM, on Marinda citrifolia and

Cestrum diurnaum. Caroline Is.: Ponape: 3♀, Kolonia, VI–IX 1950, PA; 1♂, Agric Exp. Sta., 6 I 1953; 3♂4♀, Mt. Tamatama, 11–19 I 1953, 1♀, Nanponmai, 29 I 1953, JG, light trap; 6♀, Kolonia VII–VIII 1957, MW & MWh.

Distribution. Mariana Is., Caroline Is.; Indonesia.

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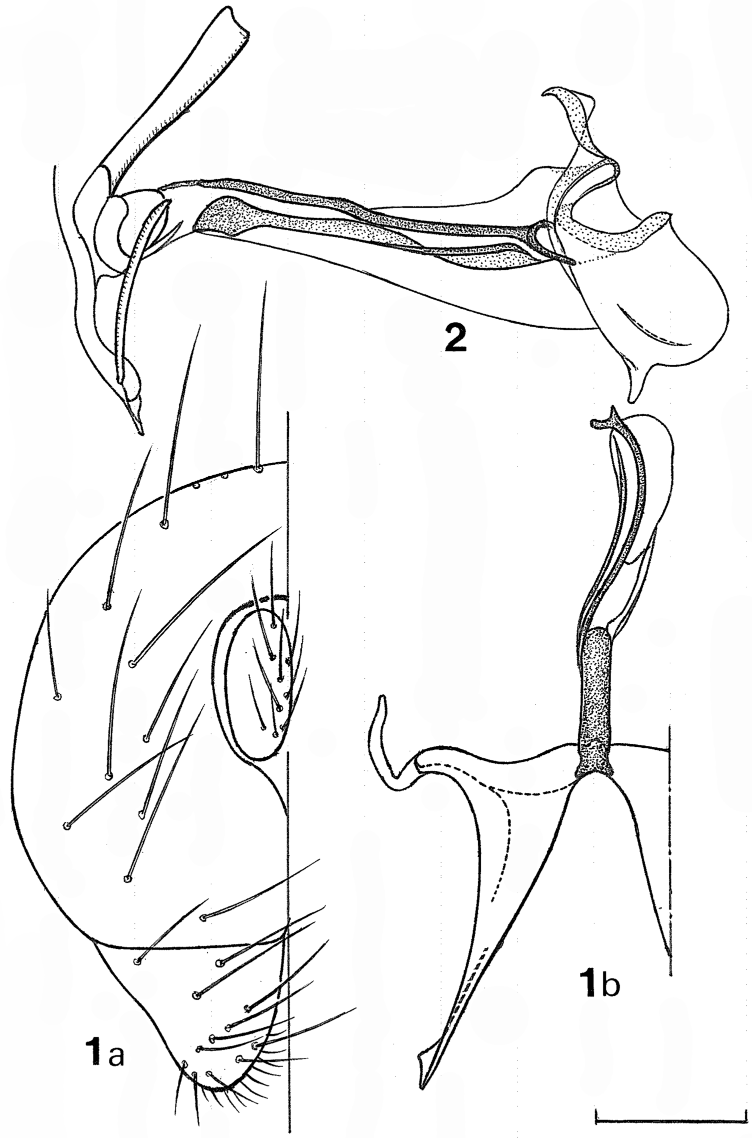
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Figures 1–2. Male genitalia. **1**. *Kerteszomyia guamensis* n. sp. **la**: epandrium and surstylus, caudal view; **lb**: phallus and hypandrium, dorsal view (paratype). **2**. *Meiosimyza carolinensis* n. sp., phallus, lateral view (paratype). Scale = 0.l mm.